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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,488	08/20/2003	Peter Greenwood	ANO6272/3554	7401
7590	07/22/2005			
			EXAMINER	
			MICHELL, KATHERINE W	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/644,488	GREENWOOD ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Katherine W. Mitchell	3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 June 2005.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,5,7,9,11-13 and 15-20 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,6,8,10 and 14 is/are rejected.
- 7) Claim(s) 4 and 12 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on NONE is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attach Mkt(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,6, 8, 10, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Crinkelmeyer USP 4102400.

Re claims 1 and 14: Crinkelmeyer teaches a method of sealing a leaking cavity comprising injecting into said cavity (col 2 lines 5-13) a grouting composition comprising an alkali metal silicate or organic silicate, colloidal silica particles, and at least one gelling agent (col 3 lines 27-52, note that Iler's teachings are incorporated by reference, and calcium chloride is an alkaline metal salt), wherein the composition has a weight ratio of silica to silicate of from about 2:1 to about 100:1 (col 7 lines 14-20 and col 6 lines 5-32)

Further Re claim 6: A hydraulic binder is taught in col 4 line 48 – col 5 line 27).

Further Re claims 8 and 10: A ratio of silica to silicate of from about 3:1 to 70:1 and about 6:1 to about 20:1 is taught in col 7 lines 14-20 and col 6 lines 5-32.

***Response to Arguments***

3. Applicant's arguments on the particle size distribution and a relative standard deviation lower than about 15% by numbers are accepted as clarifying the record.

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4. Applicant's arguments, with respect to Bartlett have been fully considered and are persuasive. In particular, applicant is correct that Bartlett teaches salts, silicates, and silica sols as alternatives, not in combination, and examiner further defers to applicant's expertise that silicate is not inherently formed upon reaction of colloidal silica particles with NaCl, since there is no disclosure of an acid present. The rejection using Bartlett has been withdrawn.

Applicant's arguments filed with respect to Crinklemeyer have been fully considered but they are not persuasive. Applicant is claiming a method **comprising...** using a grout **comprising....** These are open terms which allow additional, non-specified steps and components, respectively. Crinkelmeyer's spacer fluid is injected (col 7 line 63) and used to provide fluid loss control in combination with a cement slurry used to grout a wellbore into the ground, thus it is injected into a cavity and can be considered part of a grouting composition - the cement slurry and spacer fluid combined form a grouting composition. Applicant did not claim that the grout composition was a single part composition or that all parts were injected already mixed.

Crinkelmeyer teaches:

As those skilled in the art will realize, the amount of weighting agent to be employed will vary greatly depending on the material used as a weighting agent, the desired weight of the slurry, and the like. For example, if 50 pounds of a blend comprised of, by weight, about 13.2% sodium metasilicate, 14.4% commercial calcium chloride flake containing 77-80 weight percent active CaCl<sub>2</sub>, 6.6% carboxymethylcellulose, 6.6% sodium citrate dihydrate, and about 60% ground silica is added to 39.3 gallons of water, one 42-gallon barrel of 9 pounds per gallon spacer will be obtained.

The spacer may also contain weighting material to provide a desired density, e.g., up to about 20 lbs/gallon. Preferably, the spacer is designed to have at least as great a density, gel strength, and viscosity as that of the drilling fluid, under conditions present in the borehole,<sup>55</sup> but it should have a density less than that of the cement. The weighting material can also affect gel strength and viscosity of the spacer to some extent. For example, weighting material having a small particle size tends to increase the apparent viscosity and gel strength of the<sup>60</sup> spacer. Suitable materials include density increasing solids such as barium sulfate, fly ash, pozzolan, hematite, ilmenite, silica, and the like. Depending on the density of the materials, certain particulate materials used as fluid loss control agents may also serve as<sup>65</sup> weighting materials, and where such particulates are present in an amount greater than about 15 percent BWOW, the excess over about 15 percent may be re-

and specifies the silica passes through a 200 mesh screen. Note that the weighting material (silica) has a very small particle size to increase apparent viscosity and gel strength, which examiner believes would result in colloidal silica.

**Colloid,**

*mixture of tiny particles of one substance, called the dispersed phase, suspended in another substance, called the dispersion medium. The particles are so small that they remain in suspension indefinitely, unaffected by gravity. Both the dispersed phase and the dispersion medium may be solid, liquid, or gaseous, although the dispersal of one gas in another is not known as colloidal dispersion.<sup>1</sup>*

Examiner is unsure of applicant's final argument - sodium metal silicate is an alkali metal silicate - sodium is definitely an alkali metal by definition:

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<sup>1</sup> *The Encarta® Desk Encyclopedia Copyright © & © 1998 Microsoft Corporation. All rights reserved.*

**Alkali Metal**

**Definition**

An **alkali metal** is any element other than hydrogen found in the first column of the periodic table. These elements include lithium (Li), sodium (Na), potassium (K), rubidium (Rb), cesium (Cs) and francium (Fr)<sup>2</sup>

***Allowable Subject Matter***

5. Claims 4 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

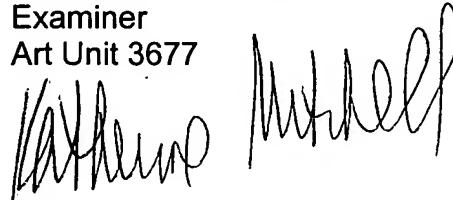
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katherine W Mitchell  
Examiner  
Art Unit 3677

Kwm  
7/15/2005



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<sup>2</sup> From <http://www.ilpi.com/msds/ref/alkalimetal.html>